Docket No. 03-1272 *PATENT*

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: **Evans**	§	
	§	Group Art Unit: **3724**
Serial No.: **10/829,269**	§	
	§	Examiner: **Lee, Laura Michelle**
Filed: **April 22, 2004**	§	
	§	Confirmation No.: **6459**
For: **Cutting Anvil and Method**	§	
	§	

63759

PATENT TRADEMARK OFFICE
CUSTOMER NUMBER

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF (37 C.F.R. 41.37)

This brief is in furtherance of the Notice of Appeal, filed in this case on March 15, 2010, and the Notice of Panel Decision from Pre-Appeal Brief Review dated May 24, 2010.

A fee of $540.00 is required for filing an Appeal Brief. Please charge this fee to Boeing Deposit Account No. 18-1730. No additional fees are believed to be necessary. If, however, any additional fees are required, I authorize the Commissioner to charge these fees which may be required to Boeing Deposit Account No. 18-1730.

REAL PARTY IN INTEREST

The real party in interest in this appeal is the following party: The Boeing Company, Chicago, Illinois.

RELATED APPEALS AND INTERFERENCES

This appeal has no related proceedings or interferences.

STATUS OF CLAIMS

A. TOTAL NUMBER OF CLAIMS IN APPLICATION

The claims in the application are: 1-25

B. STATUS OF ALL THE CLAIMS IN APPLICATION

Claims canceled: 4, 5 and 10-24

Claims withdrawn from consideration but not canceled: None

Claims pending: 1-3, 6-9 and 25

Claims allowed: None

Claims rejected: 1-3, 6-9 and 25

Claims objected to: None

C. CLAIMS ON APPEAL

The claims on appeal are: 1-3, 6-9 and 25

STATUS OF AMENDMENTS

An Amendment after the Final Office Action of February 1, 2010 was not filed. Accordingly, the claims on appeal herein are as amended in the Response to Office Action filed on November 18, 2009.

SUMMARY OF CLAIMED SUBJECT MATTER

A. CLAIM 1 - INDEPENDENT

The subject matter of claim 1 is directed to a system having an anvil (**12**, **Figure 1**; Specification, page 5, line 9) and an ultrasonic blade (**14**, **Figure 1**; Specification, page 5, line 9). The anvil is for providing support to a backed ply material (**46**, **Figure 2**; Specification, page 7, lines 9-10) during a cutting operation by the ultrasonic blade. The backed ply material travels in a first direction (**B**, **Figure 1**; specification, page 6, lines 10-11) and comprises a ply (**48**, **Figure 2**; Specification, page 7, lines 10-11) and a backing (**50**, **Figure 2**; Specification, page 7, lines 10-11) the backing being relatively more flexible than the ply (Specification, page 9, line 25-page 10, line 2). The ultrasonic blade has a cutting profile and is operable to travel along a cutting path, the cutting path being oriented in a transverse manner relative to the first direction (**A**, **Figure 1**; Specification, page 5, lines 24-25). The anvil comprises a rigid base for securing the anvil to a cutting assembly, an inverted "T" shaped channel in the rigid base and coinciding with the cutting path, and a "T" shaped insert (**60**, **Figure 3**; Specification, page 9, lines 13-15) that mates with the channel. The anvil also comprises a surface on the insert to support the backed ply material, and a groove (**16**, **Figure 1**; Specification, page 5, lines 12-13) disposed upon the surface and coinciding with the cutting path. The groove is formed in the insert prior to any cutting operation by the ultrasonic blade and has a curved profile corresponding to a tip portion of the cutting profile of the ultrasonic blade. The groove provides support for the backing of the backed ply material during the cutting operation such that the ply and the relatively more flexible backing of the backed ply material diverge at an interface between the groove and the tip portion of the cutting profile of the ultrasonic blade, and the backing is urged into the groove during the cutting operation, the ultrasonic blade cutting the ply without cutting the backing during the cutting operation (**Figure 4**; Specification, page 9, lines 24-25).

B. CLAIM 25 - DEPENDENT

The subject matter of claim 25, which depends from claim 1, specifies that the groove has a predetermined depth, the predetermined depth being a function of a thickness and material characteristics of the backed ply material (Specification, page 12, lines 13-17).

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The grounds of rejection to review on appeal are as follows:

A. GROUND OF REJECTION 1

Claims 1, 7, 8, and 25 stand finally rejected under 35 U.S.C. 103(a) as being unpatentable over Bell et al. (U.S. Patent No. 5,265,508) in view of Gharst et al. (U.S. Patent No. 6,813,985), Mosiewicz et al. (U.S. Publication No. 2006/0096434), Jung (U.S. Patent No. 6,152,003), and Hreha (U.S. Patent No. 4,077,290).

B. GROUND OF REJECTION 2

Claims 2 and 3 stand finally rejected under 35 U.S.C. 103(a) as being unpatentable over Bell et al. (U.S. Patent No. 5,265,508) in view of Gharst et al. (U.S. Patent No. 6,813,985), Jung (U.S. Patent No. 6,152,003), Hreha (U.S. Patent No. 4,077,290), Miller (U.S. Patent No. 5,028,052), Backlund (U.S. Patent No. 4,060,017), Pilkington (U.S. Patent No. 4,920,495), Gerber et al. (U.S. Patent No. 4,373,412), and Greve (U.S. Patent No. 5,072,640).

C. GROUND OF REJECTION 3

Claims 6 and 9 stand finally rejected under 35 U.S.C. 103(a) as being unpatentable over Bell et al. (U.S. Patent No. 5,265,508) in view of Gharst et al. (U.S. Patent No. 6,813,985), Jung (U.S. Patent No. 6,152,003), Hreha (U.S. Patent No. 4,077,290), Miller (U.S. Patent No. 5,028,052), and Backlund (U.S. Patent No. 4,060,017).

ARGUMENT

A. GROUND OF REJECTION 1 (Claims 1, 7, 8, and 25)

Claims 1, 7, 8, and 25 stand finally rejected under 35 U.S.C. 103(a) as being unpatentable over Bell et al. (U.S. Patent No. 5,265,508) hereinafter "Bell", in view of Gharst et al. (U.S. Patent No. 6,813,985), hereinafter "Gharst", Mosiewicz et al. (U.S. Publication No. 2006/0096434) hereinafter "Mosiewicz", Jung (U.S. Patent No. 6,152,003) hereinafter "Jung", and Hreha (U.S. Patent No. 4,077,290) hereinafter "Hreha".

A.1. Claims 1, 7, 8 and 25

In finally rejecting claim 1, the Examiner states:

> Bell discloses a system comprising: an anvil (T-shaped member, 72; Figure 9-10) and a ultrasonic blade (ultrasonic cutting tool, 4), the anvil for providing support to a backed ply material during a cutting operation by the ultrasonic blade (4), the back ply material comprising a ply material and a backing (the material is not being positively claimed) traveling in a first direction(towards the blade), the ultrasonic blade having a cutting profile (blade 46), the ultrasonic blade being operable to travel along a cutting path (along channel 73) the cutting path being orientated in a transverse manner relative to the first direction, the anvil comprising: a rigid base (bottom of T- shaped member) for securing the anvil to a cutting assembly; an inverted channel (channel 73) in the rigid base and coinciding with the cutting path; an insert (Lexan plastic strip 74) to mate with the channel; a surface (top of insert) on the insert to support the backed ply material, the surface being secured to the base (72).
>
> Bell does not disclose a groove disposed upon the surface and coinciding with the cutting path that is formed in the insert prior to any cutting operation by the ultrasonic blade, and having a curved profile corresponding to a tip portion (46) of the cutting profile, the groove providing support during the cutting operation, wherein a backing of the backed ply material is urged into the groove during the cutting operation.
>
> However, attention is directed to both the Gharst, Jung and Mosiewicz references which disclose cutting operations for cutting partially though a material. Jung discloses the use of both a cutting wheel and an ultrasonic cutting tool that can both be used to cut to a specified depth relative to the material to be cut and also the plastic supporting surface, which is utilized to protect the anvil and blade from contacting. Alternatively, Gharst discloses a cutting wheel to cut through a two ply material, where the blade severs the top layer, yet leaves the backing layer unscathed. Gharst discloses this means is accomplished by utilizing

a slitting groove positioned underneath the cutting wheel, which additionally provides for a cleaner cut without damaging the cutting wheel or the anvil by incidental cutting contact. Although Gharst does not disclose that the slitting groove is usable with an ultrasonic cutting tool, as shown by Jung that the two types of cutting tools, cutting wheels, and ultrasonic cutters, are both usable to cut a specified depth into a material. Attention is also directed to the Mosiewicz reference which discloses an ultrasonic cutting tool that utilizes a channel or groove with a width slightly larger than the blade to permit a lower portion of the blade to pass below a bottom surface of the workpiece as the workpiece is being cut (paragraph [0011]). It would have been obvious to one having ordinary skill in the art to have similarly tried utilizing a groove positioned in the anvil of Bell to effect either a partial cut or to protect the Bell ultrasonic cutting blade from contact with the anvil as taught by Gharst and Jung and Mosiewicz. The modified device of Bell still does not disclose that the channel (73) is an inverted "T" shape, nor that the insert is also "T" shaped. However, attention is directed to Hreha that discloses another insert possessing an inverted T-shape that mates with a corresponding inverted -T shaped channel. Hreha discloses that providing inserts of a variety of shapes (see at least Figure 2 and 7) is well known in the art as they allow the insert to be removably secured within the channel. T-shaped inserts unlike rectangular inserts hinder the movement of the insert in the forward direction. It would have been obvious to one having ordinary skill in the art at the time of the invention to have modified the inserts of Bell to comprise a T-shape as taught by Hera as T-shaped inserts are old and well known in the art for improvements in more secure, yet detachable connections.

The limitations of the backing being more flexible than the ply and diverging at an interface between the grove and tip, when the backing is urged into the groove during cutting operations are a function of the properties of the workpiece and therefore in of themselves do not impart any structural significance and are considered intended use limitations.

Final Office Action dated February 1, 2010, pages 2-5.

Claim 1 is as follows:

1. A system having an anvil and an ultrasonic blade, the anvil for providing support to a backed ply material during a cutting operation by the ultrasonic blade, the backed ply material traveling in a first direction and comprising a ply and a backing, the backing being relatively more flexible than the ply, the ultrasonic blade having a cutting profile, the ultrasonic blade being operable to travel along a cutting path, the cutting path being oriented in a transverse manner relative to the first direction, the anvil comprising:

a rigid base for securing the anvil to a cutting assembly;

an inverted "T" shaped channel in the rigid base and coinciding with the cutting

path;

a "T" shaped insert that mates with the channel;

a surface on the insert to support the backed ply material; and

a groove disposed upon the surface and coinciding with the cutting path, the groove being formed in the insert prior to any cutting operation by the ultrasonic blade and having a curved profile corresponding to a tip portion of the cutting profile of the ultrasonic blade, the groove providing support for the backing of the backed ply material during the cutting operation such that the ply and the relatively more flexible backing of the backed ply material diverge at an interface between the groove and the tip portion of the cutting profile of the ultrasonic blade, and the backing is urged into the groove during the cutting operation, the ultrasonic blade cutting the ply without cutting the backing during the cutting operation.

The Examiner bears the burden of establishing a *prima facie* case of obviousness based on prior art when rejecting claims under 35 U.S.C. § 103. *In re Fritch*, 972 F.2d 1260, 23 U.S.P.Q.2d 1780 (Fed. Cir. 1992). The prior art reference (or references when combined) must teach or suggest all the claim limitations. *In re Royka,* 490 F.2d 981, 180 USPQ 580 (CCPA 1974). In determining obviousness, the scope and content of the prior art are… determined; differences between the prior art and the claims at issue are… ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background the obviousness or non-obviousness of the subject matter is determined. *Graham v. John Deere Co.*, 383 U.S. 1 (1966). "Often, it will be necessary for a court to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue." *KSR Int'l. Co. v. Teleflex, Inc.*, No. 04-1350 (U.S. Apr. 30, 2007). "*Rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.* Id. (citing *In re Kahn*, 441 F.3d 977, 988 (CA Fed. 2006))."

In the present case, the Examiner has not established a *prima facie* case of obviousness in rejecting the claims because neither Bell nor Gharst nor Mosiewicz nor Jung nor Hreha nor their combination teaches or suggests all the claim limitations. With respect to claim 1, for example, neither Bell nor Gharst nor Mosiewicz nor Jung nor Hreha nor their combination teaches or suggests at least "an inverted 'T' shaped channel in the rigid base and coinciding with the cutting

path", "a 'T' shaped insert that mates with the channel" or "a groove disposed upon the surface and coinciding with the cutting path, the groove being formed in the insert prior to any cutting operation by the ultrasonic blade and having a curved profile corresponding to a tip portion of the cutting profile of the ultrasonic blade, the groove providing support for the backing of the backed ply material during the cutting operation such that the ply and the relatively more flexible backing of the backed ply material diverge at an interface between the groove and the tip portion of the cutting profile of the ultrasonic blade, and the backing is urged into the groove during the cutting operation, the ultrasonic blade cutting the ply without cutting the backing during the cutting operation."

Bell discloses an ultrasonic cutting system for cutting a stock material. The cutting system includes an anvil 7 for supporting the stock material and an ultrasonic cutting tool 4 for cutting the stock material. As shown in Fig. 1 of Bell, during a cutting operation, the stock material is moved in a longitudinal direction indicated by arrow 14 in the figure, while a carriage assembly 3 that supports the ultrasonic cutting tool 4 moves transversely across the anvil 7 to cut the stock material.

In rejecting claim 1, the Examiner refers primarily to the embodiment illustrated in Fig. 9 of Bell, which is reproduced below for the convenience of the Board:

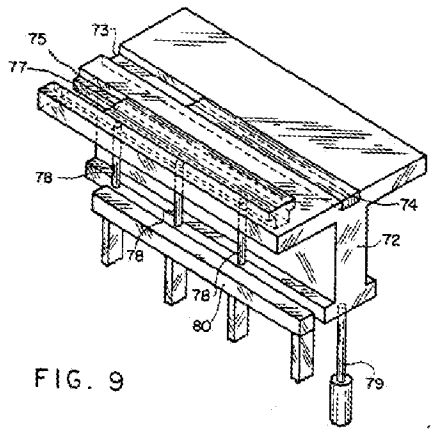

FIG. 9

Bell, in Fig. 9, illustrates an anvil 72 having a LEXAN plastic strip 74 positioned within a channel 73 that extends along a cutting axis. The Examiner construes plastic strip 74 as being an insert in an anvil, but acknowledges that plastic strip 74 is not a T-shaped insert in a T-shaped channel, that the plastic strip does not have a groove "disposed upon the surface and coinciding

with the cutting path, the groove being formed in the insert prior to any cutting operation by the ultrasonic blade", and that the plastic strip does not have a groove "having a curved profile corresponding to a tip portion of the cutting profile of the ultrasonic blade", all of which are recited in claim 1. The Examiner asserts, however, that Gharst, Jung and Mosiewicz disclose cutting operations for cutting partially through a material, that Jung discloses use of both a cutting wheel and an ultrasonic cutting tool to cut to a desired depth, that Gharst discloses utilizing a slitting groove in an anvil underneath a cutting wheel to cut a top layer of a two-ply material without cutting the backing layer, and that Mosiewicz discloses an ultrasonic cutting tool that utilizes a channel or groove with a width slightly larger than the blade to permit the lower portion of the blade to pass below a workpiece being cut. The Examiner then concludes that it would be obvious in view of Gharst, Jung and Mosiewicz to provide a groove in the anvil of Bell to effect either a partial cut or to protect the ultrasonic cutting blade in Bell from contact with the anvil.

The Examiner then acknowledges that Bell in view of Gharst, Jung and Mosiewicz still does not disclose that the channel is in an inverted T-shape or that the insert is also T-shaped. The Examiner asserts, however, that Hreha discloses an insert having an inverted T-shape that mates with a T-shaped channel, and concludes that it would also be obvious to modify the insert in Bell to be of a T-shape. Appellant respectfully disagrees with the Examiner's conclusions.

Gharst discloses a cutting device for cutting fiber insulation carried on a foil backing. The cutting device includes both a cutting blade 362 and a scoring blade 318. The cutting blade is provided to cut through both the insulation and the foil backing, and the scoring blade is provided to score the insulation, i.e., cut partially through the insulation, so that the insulation can be more easily removed from the foil backing after the material has been cut by the cutting blade.

Gharst may disclose a scoring operation to make it easier to subsequently remove insulation from a backing, but does not teach or in any way suggest a groove that provides support for the backing of a backed ply material during a cutting operation such that the ply and the backing of the backed ply material "diverge at an interface between the groove and the tip portion of the cutting profile of the ultrasonic blade, and the backing is urged into the groove during the cutting operation, the ultrasonic blade cutting the ply without cutting the backing

during the cutting operation" as recited in claim 1. Gharst may disclose a groove 254 aligned with the scoring blade 318, but does not describe the purpose of the groove. The groove 254, however, certainly does not function to provide support for a backed ply material such that the ply and the backing of the backed ply material "diverge at an interface between the groove and the tip portion of the cutting profile of the ultrasonic blade" or that the backing "is urged into the groove during the cutting operation" as recited in claim 1. In Gharst, the purpose of the scoring operation is to make it easier to subsequently separate the insulation from the backing. The layers do not separate as a result of any cutting operation.

Jung is cited as disclosing a cutting device that includes both a cutting wheel and an ultrasonic tool to cut to a specified depth relative to a material being cut, and Mosiewicz is cited as disclosing an ultrasonic cutting tool that utilizes a channel with a width slightly larger than the blade to permit the blade to pass below a bottom surface of a workpiece as the workpiece is being cut. Neither of these references supplies the above deficiencies in Bell and Gharst.

Claim 1 specifies that the backed ply material being cut includes a ply and a backing in which the backing is relatively more flexible than the ply. As a result, during a cutting operation, the stiffer ply responds well to the ultrasonic blade and is cut, whereas the more flexible backing is able to resist the chiseling action of the blade by being allowed the ability to be pushed away from the blade via the groove. None of the cited references recognizes this feature, nor are any of the cited references capable of functioning in this manner. Therefore, neither Bell nor Gharst nor Jung nor Mosiewicz nor their combination teaches or suggests "a groove disposed upon the surface and coinciding with the cutting path, the groove being formed in the insert prior to any cutting operation by the ultrasonic blade and having a curved profile corresponding to a tip portion of the cutting profile of the ultrasonic blade, the groove providing support for the backing of the backed ply material during the cutting operation such that the ply and the relatively more flexible backing of the backed ply material diverge at an interface between the groove and the tip portion of the cutting profile of the ultrasonic blade, and the backing is urged into the groove during the cutting operation, the ultrasonic blade cutting the ply without cutting the backing during the cutting operation", and claim 1 is not obvious in view of the references for at least this reason.

With respect to the claim limitations of a T-shaped insert that mates with a T-shaped channel, the Examiner cites Hreha as disclosing that it is known to provide inserts of a variety of shapes. Hreha discloses a radial arm saw table top that includes a plurality of T-shaped grooves for receiving T-shaped fences. The fences serve an entirely different function than the T-shaped insert of claim 1 and do not coincide with a cutting path as recited in claim 1. Therefore, it would not be obvious to one skilled in the art to modify the plastic strip 74 in Bell (the actual function of which does not appear to be described in Bell) to be T-shaped in view of the teachings of Hreha.

In this regard also, it is to be noted that Bell does illustrate a T-shaped stripper bar 77 in Fig. 9, and was thus aware of T-shaped components. Notwithstanding, plastic strip 74 is in the shape of a rectangular prism. Appellant respectfully submits that this further establishes that it would not have been obvious to modify strip 74 of Bell to be of a T-shape configuration.

Therefore, neither Bell nor Gharst nor Jung nor Mosiewicz nor Hreha nor their combination teaches or suggests "an inverted 'T' shaped channel in the rigid base and coinciding with the cutting path" or "a 'T' shaped insert that mates with the channel" as recited in claim 1, and claim 1 is not obvious in view of the cited references for this reason as well.

As indicated above, claim 1 specifies that the backed ply material being cut includes a ply and a backing in which the backing is relatively more flexible than the ply. As a result, during a cutting operation, the stiffer ply responds well to the ultrasonic blade and is cut, whereas the more flexible backing is able to resist the chiseling action of the blade by being allowed the ability to be pushed away from the blade via the groove.

In finally rejecting claim 1, the Examiner recognizes that the cited references do not disclose this feature, but states that the limitations of the backing being more flexible than the ply and diverging at an interface between the groove and the tip of the cutting blade, when the backing is urged into the groove during a cutting operation is primarily a function of the properties of the workpiece and are considered to be intended use limitations. Appellant respectfully disagrees.

It is to be noted that Jung uses a sensor to control blade depth. In a system such as in Jung, the blade has to be set very accurately to avoid cutting the backing of a backed ply material. The present invention, on the other hand, uses synergy from ultrasonic cutting physics and

cutting groove geometry to allow the ultrasonic cutting blade to cut the ply without cutting the backing. Specifically, the present invention uses the physics of the ultrasonic cutting process (high frequency oscillating stylus type cutter) in conjunction with the geometry of the groove so that the relatively more rigid ply is kept taut and cannot resist the blade movement and deflect into the groove, and is thus cut by the blade, while the more flexible backing is able to deflect away from the blade into the groove, and not be cut.

As pointed out in the specification (paragraph [0043]), the depth of the groove is based on factors such as the material of the backing, the thickness of the backing, and the configuration of the tip of the cutting blade, and the gap between the tip of the cutting blade and the groove can be set much easier than in prior cutting assemblies (paragraph [0030]).

For at least the above reasons, the separation of the ply from the backing is, in fact, a function of the movement of the ultrasonic cutting blade over the groove, and claim limitations relating to the backed ply material diverging at an interface between the groove and the tip of the blade should have been given patentable weight in examining the claims.

For at least all the above reasons, claim 1 is not obvious in view of the combination of Bell, Gharst, Mosiewicz, Jung and Hreha; and claim 1 patentably distinguishes over the cited references in its present form.

Claims 7, 8 and 25 depend from and further restrict claim 1, and also patentably distinguish over the cited art, at least by virtue of their dependency.

A.2. Claim 25

Claim 25 is as follows:

> 25. The system according to claim 1, wherein the groove has a predetermined depth, the predetermined depth being a function of a thickness and material characteristics of the backed ply material.

In finally rejecting claim 25, the Examiner states:

> In regards to claim 25, the modified device of Jung discloses wherein the groove has a predetermined depth (at least supporting the tip of the blade) and capable of being a function of a thickness and material characteristics of the backed ply material.

Final Office Action dated February 1, 2010, page 5.

Appellant respectfully disagrees that Jung discloses a groove that coincides with a cutting path and that was "formed in the insert prior to any cutting operation by the ultrasonic blade". Jung, in fact, discloses a cutting tool that is movable in both X and Y directions (see, for example, col. 5, lines 40-45). A groove that coincides with a cutting path, therefore, would appear to be impractical in Jung. In any event, Jung certainly does not disclose or suggest such a groove that has a predetermined depth that is a function of a thickness and material characteristics of a backed ply material being cut as recited in claim 25, nor has the Examiner indicated anywhere in Jung where such disclosure is present. The Examiner states that a groove in Jung is "capable of being a function of a thickness and material characteristics of the backed ply material." The Examiner, however, has not provided any support for this assumption.

Claim 25, accordingly, patentably distinguishes over the cited art in its own right as well as by virtue of its dependency from claim 1.

For at least all the above reasons, claims 1, 7, 8 and 25 patentably distinguish over Bell in view of Gharst, Mosiewicz, Jung and Hreha; and it is respectfully requested that the Board reverse the Examiner's Final Rejection of those claims.

B. GROUND OF REJECTION 2 (Claims 2 and 3)

Claims 2 and 3 stand finally rejected under 35 U.S.C. 103(a) as being unpatentable over Bell in view of Gharst, Jung, Hreha, Miller (U.S. Patent 5,028,052) hereinafter "Miller", Backlund (U.S. Patent 4,060,017) hereinafter "Backlund", Pilkington (U.S. Patent 4,920,495) hereinafter "Pilkington", Gerber et al (U.S Patent No. 4,373,412) hereinafter "Gerber", and Greve (U.S. Patent 5,072,640) hereinafter "Greve".

In rejecting the claims, the Examiner states:

> The modified device of Bell discloses the claimed invention except for the material of the anvil. It is first noted that it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416. As applicant claims that the anvil could be a metal, high pressure laminate,

> polymeric material, or a resin, apparently the material of the anvil is not very critical, in as long as the anvil structure is then capable of providing a solid, supporting surface to interact with the ultrasonic cutter. Furthermore, the use of strong, durable materials, such as metals, plastics, and laminates for anvils in combination with cutters, ultrasonic or otherwise, is old and well known in the art as supported by Backlund, Greve, Pilkington, and Gerber. One having ordinary skill in the art at the time of the invention would have been similarly motivated to have designed the Bell anvil to be comprised of a well known structurally supportive material, as the claimed materials were well known for use in the anvil art and the modification would have yielded nothing more than predictable results of a structurally supportive cutting surface.

Final Office Action dated February 1, 2010, pages 5-6.

Claims 2 and 3 depend from and further restrict claim 1. Miller, Backlund, Pilkington, Gerber, and Greve are cited as disclosing the use of various materials for anvils. The references do not, however, supply the deficiencies in the principal references with respect to claim 1. Claims 2 and 3, accordingly, patentably distinguish over the cited references in their present form, at least by virtue of their dependency, and it is respectfully requested that the Board reverse the Examiner's Final Rejection of those claims.

C. GROUND OF REJECTION 3 (Claims 6 and 9)

Claims 6 and 9 stand finally rejected under 35 U.S.C. 103(a) as being unpatentable over Bell in view of Gharst, Jung, Hreha, Miller and Backlund.

In finally rejecting the claims, the Examiner states:

> The modified device of Bell discloses the claimed invention except that insert (74) comprises a high pressure laminate or nylon. It would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute the resilient Lexan plastic for another material such as a HPL or nylon, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Final Office Action dated February 1, 2010, page 6.

Claims 6 and 9 depend from and further restrict claim 1. Miller and Backlund do not supply the deficiencies in Bell, Gharst, Jung and Hreha with respect to claim 1. Claims 6 and 9, accordingly, patentably distinguish over the cited art in their present form, at least by virtue of their dependency, and it is respectfully requested that the Board reverse the Examiner's Final Rejection of those claims

D. CONCLUSION

As shown above, the Examiner has failed to state valid rejections against any of the claims. Therefore, Appellant respectfully requests that the Board of Patent Appeals and Interferences reverse the Examiner's Final Rejections of claims 1-3, 6-9, and 25.

Date: June 23, 2010

Respectfully submitted,

/Gerald H. Glanzman/

Gerald H. Glanzman
Reg. No. 25,035
Yee & Associates, P.C.
P.O. Box 802333
Dallas, TX 75380
(972) 385-8777
Attorney for Appellants

CLAIMS APPENDIX

The text of the claims involved in the appeal is as follows:

1. A system having an anvil and an ultrasonic blade, the anvil for providing support to a backed ply material during a cutting operation by the ultrasonic blade, the backed ply material traveling in a first direction and comprising a ply and a backing, the backing being relatively more flexible than the ply, the ultrasonic blade having a cutting profile, the ultrasonic blade being operable to travel along a cutting path, the cutting path being oriented in a transverse manner relative to the first direction, the anvil comprising:

a rigid base for securing the anvil to a cutting assembly;

an inverted "T" shaped channel in the rigid base and coinciding with the cutting path;

a "T" shaped insert that mates with the channel;

a surface on the insert to support the backed ply material; and

a groove disposed upon the surface and coinciding with the cutting path, the groove being formed in the insert prior to any cutting operation by the ultrasonic blade and having a curved profile corresponding to a tip portion of the cutting profile of the ultrasonic blade, the groove providing support for the backing of the backed ply material during the cutting operation such that the ply and the relatively more flexible backing of the backed ply material diverge at an interface between the groove and the tip portion of the cutting profile of the ultrasonic blade, and the backing is urged into the groove during the cutting operation, the ultrasonic blade cutting the ply without cutting the backing during the cutting operation.

2. The system according to claim 1, wherein the rigid base comprises a metal base.

3. The system according to claim 2, wherein the metal base comprises a steel base.

6. The system according to claim 1, wherein the insert comprises a high pressure laminate.

7. The system according to claim 1, wherein the insert comprises a polymeric material.

8. The system according to claim 7, wherein the polymeric material comprises an ultra high molecular weight polymer.

9. The system according to claim 7, wherein the polymeric material comprises nylon.

25. The system according to claim 1, wherein the groove has a predetermined depth, the predetermined depth being a function of a thickness and material characteristics of the backed ply material.

EVIDENCE APPENDIX

This appeal brief presents no additional evidence.

RELATED PROCEEDINGS APPENDIX

This appeal has no related proceedings.